recent weather in England will perhaps find a grain of consolation in the statement that M. Thollon, who comes every summer to work in connection with this part of the Observatory, spent his whole summer there last year without being able to make a single observation. M. Egoroff, Professor of Physics at Warsaw, was, we learn, occupied during the months of July and August, as in preceding years, with the spectroscopic study of atmospheric absorption, working with a beam of electric light sent from Mont-Valérien to the Observatory.

Most of our readers are aware that the French Government has, as we think wisely, determined to separate the special meteorological investigations from the astronomical work of the Observatory. In consequence of this decision, Admiral Mouchez is now making meteorological observations of possibly a still higher value, with the special object of determining the different corrections, such as for refraction, to be applied to the astronomical observations.

The magnetical observatory which is now being completed will evidently be one of the first order. Six subterranean chambers of constant temperature have been built under the best possible conditions of isolation and stability. An outer wall of nearly 2 m. thickness incloses a rectangular space 40 m. in length, and 14 m. wide, completely impervious to moisture. The observing chambers, of which there are four of 5 m. by 4 m., and two of 6 m. by 5 m., are constructed in this space, being isolated from its walls by passages 2 m. wide. The walls of the observing chambers themselves are 80 centimetres thick; they communicate with each other by doors 1½ m. wide, and have a height of 3·65 m. The vaulted roof, 1 m. thick, is covered by earth to the thickness of 2 m., whilst grass and plants protect the soil from the direct rays of the sun, and from frost. The observing chambers can either be lighted by gas or by reflection from without.

Advantage has been taken of the existence of these chambers by placing in them the clocks from which the time is distributed throughout Paris, but in spite of all precautions it is unfortunately discovered that the chambers are not altogether free from minor trepidations resulting from the traffic of the streets. It is proposed therefore to place the apparatus for the study of the vertical and slow movements of the soil to a gallery in the Catacombs 27 m. below the surface. This apparatus has been constructed and is ready for use.

Among the meteorological work to be done with the object to which we have previously referred is included a series of observations from a captive balloon. This is of such a size that with ordinary gas in calm weather it can take self-registering barometers, thermometers, and hygrometers up to a height of 500 m., and with pure hydrogen it can ascend to a height of 800 m. It has been found by experiment that the balloon cannot be well managed if the air has a velocity greater than 4 m. or 5 m. per second: but this is not regarded as being inconvenient, because it is during complete calm that those great and frequent inversions of the law of decrease of temperature which most sensibly interfere with astronomical refraction, manifest themselves.

Simultaneous observations will be made on the meridian of the Observatory of Paris, north at the Observatory of Montmartre, and south at the Observatory of Montsouris.

The construction of the great refractor of 16 m. focal length with its dome of 20 m. in diameter is going on steadily. The object-glass worked by M. Martin is already finished, and the ground on which the Observatory is to be built is now prepared. There are some interesting details in the report touching the dome, the dimensions of which we learn will be the same as that of the Panthéon, and the largest ever attempted.

In insisting upon such a dome turning with ease, it must not be forgotten that it would be useless to construct one of such dimensions, unless steps were taken to prevent the ill effects which would arise from any displacement or deformation of the soil on which the Observatory is to be erected, or the walls of the Observatory itself. The arrangement which is to be adopted in the construction of this dome is that proposed by M. Eiffel. In order to reduce to a minimum the resistance due to friction on circular rollers, M. Eiffel proposes to float the dome by means of a circular caisson plunged in a receptacle of the same form, filled with a liquid which will not freeze, such as an aqueous solution of chloride of magnesium. An experiment made with a small model gave hopes of the most satisfactory results with this arrangement. There is much originality in the idea, and at the Paris Observatory more than anywhere else perhaps it is necessary that some such arrangement as this should be adopted, for it must not be forgotten that the Observatory is situated over the Catacombs, one result of which has been that for many years the pillars of the meridian circle erected in the gardens have gradually inclined towards the east in consequence of the displacement of the soil. If the same thing were to happen to the Observatory for the great equatorial, there is little doubt that before many years were over the dome would be quite immovable, whereas with Eiffel's floating arrangement, whatever be the change in level within season due to such a cause as we have named, the dome would still turn.

Another point which is engaging the attention of the Director is the erection of an astronomical observatory on the Pic du Midi, at a height of 2859 m. At this elevation, according to General de Nansouty, it is easy to read at night by the light of the stars alone, and fifteen or sixteen Pleiades are visible to the naked eye. It is indeed time that the importance of the possibility of observations at great heights received a fuller recognition. When the astronomical party were in the Rocky Mountains in 1878, to observe the eclipse of the sun there, three American observers had no difficulty in detecting the satellites of Jupiter every night with the naked eye. Nothing could show better the purity and transparency of the air than this, and to establish these facts is to establish also the necessity for utilising them. It is intended that any astronomer who wishes to make any special researches may take advantage of this Pic du Midi Observatory. At the same time, however, astronomers will be sent from the Paris Observatory to profit by the clear skies of the south at those times when the climate of Paris reduces the number of possible observations in the Observatory itself. It is pointed out that not only the science of astronomy, but physics, chemistry, and physiology, will probably derive great benefit from the institution of such an observatory as this.

NOTES

THE Royal Society Soirée last Wednesday was as successful as usual, though the absence of the president, Mr. Spottiswoode, through illness, was to be regretted. From inquiries last night we are glad to learn that Mr. Spottiswoode, who is suffering from Roman fever, is going on very well.

THE candidates selected by the Council of the Royal Society, whose names we gave in NATURE, vol. xxvii. p. 614, were elected last Thursday.

DR. MICHAEL FOSTER has, in accordance with unanimous expectation, been elected to the newly established Professorship of Physiology in the University of Cambridge; and Dr. Alexander Macalister, F.R.S., Professor of Comparative Anatomy and Zoology in the University of Dublin, has been elected to the Professorship of Anatomy, vacant by the resignation of Prof. Humphry.

IT will gratify our readers to learn that Her Majesty has subscribed 50*l.* and the Prince of Wales 26*l.* 5*s.* to the fund now being raised by the Scottish Meteorological Society for the establishment of a Meteorological Observatory on the top of Ben Nevis. At a meeting of the Council of the Society on Saturday last, we understand that plans and specifications and offers from several contractors for making a road from Fort William to the top of Ben Nevis were submitted, and it was resolved to commence the making of the road at once; Mr. Sydney Mitchell, architect, was instructed to make arrangements for the completion of the work within two months.

PROF. MORRIS has presented to University College, London, his valuable geological library.

THE following subjects have been settled for conferences at the Fisheries Exhibition; the authors whose names are given have consented to read papers. Many gentlemen have consented to act in this capacity, but the complete list is not yet ready:—British Fisheries and Fishermen, by H.R.H. the Duke of Edinburgh; the Fisheries of the United States, by Prof. Brown Goode; the Fisheries of the Dominion; the Fisheries of other Countries (Commissioners for Sweden, Norway, Netherlands, China, &c., have promised to take part in these conferences); Herring Fisheries, by Mr. R. W. Duff, M.P.; Pilchard and Mackerel Fisheries, by Mr. J. Cornish; Salmon and Salmon Fisheries; Fresh Water Fisheries (including Trout), by Mr. Francis Francis; Seal Fisheries, by Capt. Temple; Oyster Culture and Fisheries, by Prof. Hubrecht; Mollusks, Mussels, Whelks, &c., used for Food or Bait, by Mr. Chas. Harding; Line Fishing, by Mr. C. M. Murdahl; Trawling; the Application of Steam Power to the Fishing Industry; Principles of Fishery Legislation, by the Right Hon. G. Shaw Lefevre, M.P.; Fish Culture and Acclimatisation of Fishes, by Sir James Maitland; Fish as Food, by Sir Henry Thompson; Fish Transport and Fish Markets, by His Excellency Spencer Walpole; Food of Fishes, by Dr. F. Day; Storm Warnings, by Mr. R. H. Scott; Fish Diseases, by Prof. Huxley; Economic Condition of Fishermen, by Prof. Leone Levi; Protection of Life of Fishermen; Scientific Results of the Exhibition, by Prof. Ray Lankester.

THE Committee appointed by the French Parliament to consider the pension to M. Pasteur, have agreed to recommend its increase from 12,000 francs to 25,000, with reversion to the widow and children.

PROF. LENZ is about to organise, with the aid of the Russian Geographical Society, a series of observations on terrestrial currents along four lines of Russian telegraphs—Moscow to Kazan and to Kharkoff, and Tiflis to Rostoff and Baku. The necessary instruments are ordered, and the observations will begin as soon as these are ready. These observations were highly recommended, as is known, by the International Polar Committee at its Hamburg meeting, in connection with the magnetic observations of the circumpolar stations, as well as by the Electrical Congress at Paris. Germany has already begun these observations, whilst Austria, Sweden, and Finland are about to start them.

AS the Russian Meteorological stations on Novaya Zemlya and at the mouth of the Lena were unable to begin regular magnetic observations on September 1, 1882, and their observations during the first months probably will not have the desired degree of accuracy, the Meteorological Committee of the Russian Geographical Society has applied for grants of money to continue these observations for one year more. Two new meteorological stations have been opened at Obdorsk and at Mezen, in order to connect the Novaya Zemlya observations with those of Central Russia.

ON the 5th inst. the Emperor of Austria inaugurated the new Vienna Observatory, on the Turken Schanze, in the northern outskirts of the town. The new building took nine years to construct, and during that time the present director went all over Europe and America in order to study the fitting-up of the best observatories. The result is that the Vienna Observatory is probably one of the most complete in existence. For an account of the great telescope, constructed by Grubb of Dublin, see NATURE, vol. xxiv. p. 11.

A COMPETITION has been opened by the Genevan Society of Physics and Natural History for the best unpublished monograph on a genus or family of plants. The MSS. may be in Latin, French, German (in Roman writing), English, or Italian, and should be sent to Prof. Alph. de Candolle, Cour St. Pierre, 3, Geneva, before October 1, 1884. Members of the Society are not admitted to the competition. The prize is 500 francs.

M. MARCEL DEPREZ, the author of the experiments on the transmission of force to a distance, has offered himself as a candidate for the place in the Academy of Sciences vacated by the death of M. Bresse, in the section of Mechanics.

THERE was an interesting gathering at Newnham, Cambridge, on Saturday, to celebrate the success of the College for Women, started there some years ago, and to honour its first and as yet only Principal, Miss Clough, by presenting her portrait to the institution. The progress which has been made in the higher education of women since Newnham was founded is striking. Though only a few years ago the attempt was barely tolerated by the University authorities, now the students are all but nominally attached to the University, and there can be no doubt that ere very long they will obtain all that the friends of these institutions desire. Miss Clough deserved all the honour paid her on Saturday, for mainly to her courage, intelligence, and tact has the wonderful success of Newnham been due.

Apropos of the education of women and of the callings for which they are suited, it is a remarkable fact that the recently opened Brooklyn Bridge, of which we have heard so much as one of the greatest triumphs of engineering, owes its existence partly to the genius of a woman. Mrs. Washington Roebling, the wife of the great engineer who was intrusted with the construction of the Brooklyn Bridge, has been chief of the engineering staff ever since her husband first fell ill. When he was disabled and could not proceed with his great work, Mrs. Roebling began to study engineering, and her success was such that in a short time she was able to take her husband's place, and the enormous structure which Americans not incorrectly call "one of the most conspicuous marvels of the nineteenth century" was completed under her direction. The honour of being the first to drive across the new bridge was well earned by Mrs. Roebling, and the peculiar share which she had taken in its construction was rightly held to justify a disregard of the old superstition which dooms to ill luck the structure over which a woman has been the first to cross.

PROF. A. H. KEANE has been elected a Corresponding Member of the Anthropological Society of Washington.

THE fifth International Congress of Americanists will be held at Copenhagen, August 21–24. King Christian will be "Protector" of the Congress, while Prince Frederick Christian will be Honorary President. Prof. Worsaae is President of the Committee of Organisation. The subjects to be discussed cover a wide field, including history and geology, archæology, anthropology and ethnography, linguistics and palæography.

THE Duke of Westminster has intimated to the Council of the National Smoke Abatement Institution that he purposes to contribute 500*l.* to the Smoke Abatement Fund recently opened.

WE learn from the Spanish papers that the Mining Exhibition now open at Madrid, is a great success. However incomplete, it still represents to a certain degree the present state of this wide branch of national welfare of Spain, and probably will give an impulse to the further development of geology, which is one of the most popular sciences with the Spanish *savants.*

THIRTY-TWO schemes were examined by the jury for the erection of a statue to Christopher Columbus at Barcelona. The most accredited opinion in Spanish artistic circles is, however, that none of them corresponds to the greatness of the event of the discovery of a new continent, which it has to commemorate. The statue will be erected on the seashore, facing the port of Barcelona.

A WRITER in the *Times* on the present Czar of Russia and his two predecessors refers to some improvements which have been made during the present reign. "The most hopeful of all recent signs in Russia," he says, "has been the entire cessation of the ecclesiastical censorship that was formerly exercised over scientific writings. The censors used to be attached to the Universities; many of them were nominees of the higher clergy; and books that were considered unorthodox were never licensed by them unless the author paid fees which deprived him of all profit in his work. This, at least, was generally the case, and if an author evaded payment it could only be through the patronage of some very powerful man. M. Delyanoff has allayed much irritation among Russian *savants* and given a valuable stimulus to University education by limiting the jurisdiction of the censors to political works. So we shall hear no more of books being suppressed—as one was by Count Tolstoi—for inquiring too minutely into miracles alleged to have been wrought by bones of saints drawn from the catacombs of Kieff and sold by the clergy at high prices."

WE have received the sixteenth volume of the *Memoirs of the Society of Naturalists at the Kharkoff University.* It is mostly occupied by a long paper by A. W. Guroff, on the geology of the provinces of Kharkoff and Ekaterinoslav, being a valuable addition to the former work by Prof. Levakovsky, "On the Cretaceous and subsequent Formations," and to the works of MM. Borisyak, Briot, Klemm, and many others. The author describes at length the crystalline rocks of the rapids of the Dnieper, and gives a map of their extension, as well as a classification of this complicated series. He then mentions the littoral formations of the coal-basin of the Don, as well as the coal-measures of the Kalmius, and dwells at some length on the Bakhmut depression, describing the different stages of its Permian deposits. As to the much-discussed question of the upper members of this formation, which are considered by several Russian geologists to belong to the Trias, he is inclined too to consider them as intermediary between the Permian and the Jura, as they contain remains of the *Posidonomya* (*Estheria*) *minuta* and the *Equisetum arenaceum*, which both characterise the same formation on the Volga. The Jurassic deposits which unite the Jura of the Don with that of Kieff, as also the Rhetic group of the Donets, are then dealt with, and a complete list of the Donets Jurassic fauna is given. The Donets Jura proves to be more like the Jura of middle Europe than that of middle Russia. The Tertiary deposits of Kharkoff (the *Spondylus* beds) seem to belong to the Eocene formation, which is covered with sand and sandstone of the Miocene period. The other papers of the same volume are a supplementary list of 200 Diptera of Kharkoff, by W. A. Yaroshevsky, bringing their number up to 908 species; and a note on the parasites of the *Stauronotus vastator.*

THE researches as to the invertebrate fauna of the Black Sea, which were made from 1833 to 1863 by Rathke, Nordmann, Kessler, and Wagner, which researches had brought only to forty the number of species of crustaceans discovered in the Black Sea, have contributed towards spreading the idea as to the remarkable poverty of this fauna. This opinion was rapidly overthrown by the more recent researches of MM. Czerniawsky, Markusen, and Bobretsky, who discovered in the space of a few years no less than 130 new species of crustaceans in the Black Sea, and brought, in 1869, the total number of crustacean species discovered there up to 160. The subsequent dredgings of MM. Krichaguin, Grebnitsky, and Czerniawsky added to the number seventy-six species more, and this last explorer even affirmed in one of his memoirs that the crustacean fauna of a single bay of the Black Sea—the Bay of Yalta—is richer than that of the whole of the Belgian coast. The opinions, however, as to the kinship of the Black Sea fauna with the faunas of the neighbouring seas are still divided. MM. Markusen and Grebnitsky maintained that it is closely akin to that of the seas of the north, and proved it by the presence of such crustaceans as are not met with in the Mediterranean (various species of *Mysis* and representatives of the groups of the *Cumacea*, *Bathyporeia*, *Niphargus*, *Padocerus*, and *Siphonœcetes*), but are common in the seas of the north. They pointed out also the circumstance that the forms which are the most numerous in the Black Sea are either cosmopolite forms or such as are common in the northern seas, but not those which might have immigrated from the Mediterranean. In a notice published in the last volume of the *Memoirs of the Kieff Society of Naturalists*, M. Sovinsky points out, however, that the reverse opinion—which admits a close relationship of the Black Sea crustaceans with the Mediterranean ones—gains more and more ground during these last few years. The Mediterranean fauna was of course submitted to the influence of the northern faunas, and its northern forms might have found an appropriate medium in the less salt water of the Black Sea; but the Black Sea fauna looks rather as a part of the fauna of the Mediterranean basin, slowly modified by the medium it inhabits; this opinion is supported, in fact, by the kinship of several Black Sea forms with those of the Mediterranean and the Red Sea, and by the richness of the Black Sea fauna in mere varieties and in such forms as are purely local, the prevailing types of the fauna being still the cosmopolite ones. The Black Sea fauna would be thus but a part of the Mediterranean fauna, but much impoverished and modified to a great extent by the variety of local conditions.

RUSSIAN geologists do not seem to hesitate in admitting the aqueous origin of granitic rocks which formerly were unanimously considered as igneous and eruptive. The late Prof. Barbot de Marny adopted this theory during the last years of his life, and the same theory is supported now with regard to the Dneiper pegmatites, by M. Gouroff, in the *Memoirs of the Society of Naturalists* at the Kharkoff University (vol. xvi.). After a thorough study of the granitic rocks of the rapids of the Dnieper, he describes these rocks, consisting of orthoclase, plagioclase, quartz, and biotite (this last and the orthoclase being often substituted by chlorite and epidote) as granitites. These granitites always appear stratified, and alternate with granitic gneisses, their stratification being well developed with an inclination towards N. 70° E. at 60°. They are also crossed with numerous veins of pegmatite. The quartz of the pegmatite contains large microscopical inclusions of water, sometimes with carbonic acid, and with solutions of natrium and calcium chloride; it is coloured brown, which colour disappears when it is heated. The veins of pegmatite contain large crystals of quartz and orthoclase. They decrease towards their lower ends and terminate in accumulations of crystalline quartz. They very often interfere with veins of quartz, either crystalline (with microscopic inclusions of water), or opal-like. M. Gouroff proposes to discuss further the question as to the origin of the pegmatite veins in another paper, but he meanwhile points out that these veins are subsequent to the formation of the granitite and gneiss, and that, like the quartz veins, they are of aqueous origin.

IN connection with the celebration of the centenary of ballooning, some foolhardy aëronauts have been attempting to cross the Channel through the fickle air. One, named L'Hoste, who started on Friday night from Boulogne, was missing till yesterday, when news reached Paris from Antwerp that he had been rescued in the North Sea by a French lugger bound for that town.

THE Swedish Academy of Agriculture has proposed to the Government that a sum of 50*l.* be granted to Dr. R. Lundberg for a visit to the International Fisheries Exhibition. The proposal will most likely be granted.

ON May 28, between 6 and 7.30 p.m., a magnificent mirage was seen at Finsbo, in Norra Ryrs parish, Sweden. During nearly two hours, with intervals of three to four minutes, a panoramic landscape was seen, with mountains, lakes, forests, and farms. To the eye the view appeared as if only three-quarters to one (English) mile distant.

LAST year several Swedish merchants contributed a sum of 100*l.* to enable the Swedish Doctor of Zoology, C. Bovallius, who has been travelling in Central America, to forward rare zoological specimens to the Upsala University. Herr Bovallius has from time to time sent some valuable collections of insects and birds to this institution.

THE additions to the Zoological Society's Gardens during the past week include an Ourang-outang (*Simia satyrus* ♀) from Sumatra, presented by Mr. J. M. Vermont; two Duyker Boks (*Cephalophus mergens* ♂ ♀) from South Africa, presented by Mr. H. H. Trevor; a Philippine Paradoxure (*Paradoxurus prehensilis*) from the Philippine Islands, presented by Mr. A. Burgess; a King Parrakeet (*Aprosmictus scapulatus*) from Australia, presented by Mrs. Lewin; a Lesser Sulphur-crested Cockatoo (*Cacatua sulphurea*) from Moluccas, presented by J. Snowdon Henry, F.Z.S.; two Viperine Snakes (*Tropidonotus viperinus*), a Dark Green Snake (*Zamenis atrovirens*) from North Africa, presented by Mr. J. C. J. Church; two Aye-ayes (*Chiromys madagascariensis*) from Madagascar, a Carpet Snake (*Morelia variegata*) from Australia, received on approval; a Hybrid Luhdorf's Deer (between *Cervus leuhdorfi* ♂ and *C. canadensis* ♀), ten Australian Wild Ducks (*Anas superciliosa*), bred in the Gardens.

OUR ASTRONOMICAL COLUMN

COMETARY REFRACTION.—M. W. Meyer, of the Observatory of Geneva, has published a discussion of three series of micrometrical observations, made during as many near approaches of the great comet of 1881 (1881 III.) to stars, when the latter were seen through the denser parts of the head of the comet, the immediate object of the micrometrical measures of distance between the nucleus and the star being the detection of any deflection or refraction of the light of the star in passing through the cometic nebulosity. This comet offered a great advantage in an investigation of the kind, inasmuch as its nucleus had perfectly the appearance of a fixed star. M. Gustave Cellérier had treated the question from a theoretical point of view in a memoir published in *Archives des Sciences Physiques et Naturelles*, of Geneva, of October 15, 1882; the conclusions are reproduced in abstract by M. Meyer, who has applied the resulting formulæ to the case in question. The first series of observations was made on June 29, 1881, when the comet passed close to the star 519 of *Durchmusterung* + 65°, which is No. 6594 in Oeltzen's Catalogue, of 7·8 mag. The second series, on July 13, when the comet approached the star 1 Draconis (Hev.) within about 38″, and the third series on August 1, when it passed about 24″ from a star of 9·10 mag. For details of the method of treating the observations we must refer to M. Meyer's paper, which appears in *Mémoires de la Société de Physique et d'Histoire Naturelle de Genève*, t. xxviii.; he sums up his conclusions as follows:—"La substance dont la chevelure de la grande comète de 1881 a été composée s'est optiquement comportée comme un gaz, et sa puissance réfractive à une distance de 10,200 kil. du noyau a été pendant l'époque des observations de 0·0000093. La pression de ce gaz diminuait dans les régions étudiées proportionnellement au carré de la distance au noyau." He does not venture to say, however, that this value exactly represents the refractive power of the comet, though he believes in a measurable force.

M. Meyer remarks that previous attempts to detect a deflection of light in traversing the substance of a comet had led only to negative results. Bessel availed himself of the conjunction of Halley's Comet with a star of the tenth magnitude on September 29, 1835, to discover by heliometric measures an effect of this kind, but without success. His measures have been subjected to a new reduction, in accordance with M. Cellérier's theory, by M. Meyer, though with similar negative result.

KEPLER'S NOVA OF 1604.—The position of this famous star is now favourably situated for observation. It is most readily found by reference to a star of 8·9 mag., which occurs in Argelander's southern zones, and which is No. 16872 of Oeltzen's Catalogue. The place of this star for 1883·0 is in right ascension 17h. 24m. 2·9s., declination − 21° 23′ 34″. By Prof. Schönfeld's reduction of the observations of Fabricius in 1604, Kepler's star would precede 25·3s. in R.A. 0′·8 to the north. There is a star 11·12m. preceding 17·9s. and 1′·6 south of Argelander's, and another 12m. preceding 33·2s. and 2′·7 north; it is to the latter object, which was observed by Prof. Winnecke in 1875, though not previously glimpsed with a refractor of 7 inches aperture, that attention may be chiefly directed. It is to be remarked that the position of Kepler's star is liable to greater uncertainty than that of Tycho's star in 1572. It is very desirable that whatever may be the result of examination of the vicinity, it should be put upon record (of course with the corresponding date) from time to time. The Chinese annals have references to more than one of their stellar class *Ke-sing* or "extraordinary stars," in earlier times, which must have been situate in the neighbourhood of Kepler's *Nova*.

THE BINARY STAR, γ CORONÆ AUSTRALIS.—Several years since an orbit was calculated for this object by Prof. Schiaparelli, who made use of measures up to 1875, whence it appeared that the periastron passage would take place about the end of 1882. Mr. Downing, availing himself of measures to 1880, has applied small corrections to the elements found by the Milan astronomer, and fixes the periastron passage to 1883·203, the period of revolution being 54·985 years. The binary is therefore describing at present a critical portion of the orbit, and, it may be hoped, will not be neglected by those observers of double stars who can well command its position. The following are angles and distances calculated from the two orbits:—

	DOWNING		SCHIAPARELLI	
	Pos.	Dist.	Pos.	Dist.
	°	″	°	″
1883·50	134·2	0·27	93·3	0·38
83·75	103·8	0·32	80·4	0·50
84·25	74·6	0·55	59·5	0·73

THE SATURNIAN SATELLITE, MIMAS.—M. Meyer, observing with the 10-inch refractor presented to the Observatory of Geneva by the late director, Prof. Plantamour, succeeded in obtaining, near the opposition of Saturn in 1881, several sets of measures of the faint satellite, *Mimas*, about the time of greatest elongation. Considering the small number of measures of this object which have been obtained even with the largest instruments, M. Meyer's success is worthy of attention. On two nights he secured complete series of measures, and on other occasions partial ones. We find, on adjusting the circular elements adopted in this column for prediction of the positions of *Mimas* (which were founded upon Washington observations and required but small correction) by Prof. Frisby's observation of the conjunction of the satellite with the minor axis of the ring southwards, on November 8, 1882, that M. Meyer's measures are closely represented.